



Aeronautics SCIENCE Resources

Where in the Air?

<https://www.nasa.gov/aeroresearch/stem/where-in-the-air-activities>

Students will learn about the layers of Earth's atmosphere and what flies or can be found in each layer. This activity is great for individuals or groups.

Science Behind Quadcopters

Teacher's Guide:

https://www.nasa.gov/sites/default/files/atoms/default/files/aam-science-behind-quadcopters-educator-guide_1.pdf

Student's Guide:

https://www.nasa.gov/sites/default/files/atoms/default/files/aam-science-behind-quadcopters-student-guide_1.pdf

Did you ever wonder how a quadcopter-type drone can move in all different directions using only propellers that face in the same direction? This activity will teach you how it is done!

Seeing Sound

https://www.nasa.gov/sites/default/files/atoms/default/files/seeing_sound_k-8-v2_0.pdf

We often teach about sound being made of waves, but students have a hard time envisioning this. This activity makes it possible for students to actually visualize sound waves in motion.

Four Forces

https://www.nasa.gov/sites/default/files/atoms/default/files/four_forces_5_8.pdf

Flight may seem magical to some students, but most students can understand the science behind flight. This activity introduces students to the basic forces involved in flight.

Aeronautics for Introductory Physics

<https://www.nasa.gov/aeroresearch/resources/k-12/introductory-physics>

This textbook style resource contains a wealth of information for high schoolers learning about physics.

Fan-tastic Forces

<https://www.nasa.gov/sites/default/files/atoms/default/files/stem-ed-resources/fan-tastic-forces.html>

In this activity, students experiment with different shapes to see how much drag they create in a wind stream.

Bernoulli's Principle

https://www.nasa.gov/sites/default/files/atoms/default/files/bernoullis_principle_k-4-02-09-17-508.pdf

Bernoulli's principle is an extremely important concept in flight (as well as other applications). The activities in this lesson allow students to see this principle in action while learning more about it.

DID YOU KNOW?

X-59



NASA's X-59 will be a supersonic plane that doesn't produce a loud sonic boom. Instead, it will create a series of quieter sonic "thumps." It's intended to prove that using scientific principles, quiet supersonic flight is possible.